

26 May 2023

Mathematicians and Industry Join Forces to Expand Reach of Personalised Healthcare

In recent years, remarkable progress has been made in computer-driven clinical research, specifically in the field of in silico trials. As the development of medical devices becomes increasingly costly and time-consuming, in silico methods offer substantial benefits, including reducing reliance on animal trials, minimizing risks and costs, accelerating time-to-market, and addressing disparities in underrepresented populations. Regulatory bodies such as the US Food and Drug Administration (FDA) and the European Commission have demonstrated their full support by publishing documents advocating for the development of evaluation practices associated with digital evidence. The FDA has projected that digital twins and simulations will constitute a substantial portion of the evidence submitted for regulatory approval within five years.

Currently, Wen-shin, Anya, and Ant are collaborating with Virtonomy to explore how exponential analysis and related fields can be leveraged in cardiac and tissue modelling. They envision that continued collaboration with Virtonomy and other industry leaders holds the potential to create a tangible impact on society. Digital patient twins have been widely identified as a transformative technology with the capability to revolutionize the healthcare industry.

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Contributions for next edition

The next Newsletter will be published on **Friday 30 June 2023**
Please submit contributions at least 3 days in advance to Diane Davidson:
FNSDeanPA@stir.ac.uk

Faculty News

Faculty of Natural Sciences

26 May 2023



Also in this issue...

- Long Service Awards
- Academic Promotions
- SLS support
- Lifespan Lab coverage
- SafeZone App

RATE Awards



Verity Flower, Alan Law and Flora Rendell-Bhatti receiving their awards (above) and Brad Duthie (below)

Faculty success in RATE Awards 2023

The picture says it all! **Carol Jasper and Anna Bobak**, Psychology, were delighted to receive honourable mentions in the RATE Awards this week. On 22 May, the Students' Union welcomed over 100 attendees to the Atrium to celebrate and recognise staff, Faculty Officers and University Services for their hard work. Over 450 nominations were received this year, all of which were submitted by students at the University of Stirling, so for those staff shortlisted this was a tremendous accolade. The full list of nominees and winners in FNS can be viewed at the link below.

Congratulations and well done to everyone who was nominated or won awards - the faculty did very well this year!! Thank you to the Student's Union for organising and hosting the event and for all those who took the time to nominate staff members.

Full list of FNS nominees & winners



Long Service Awards

The University's 2023 Long Service Awards took place on Thursday, 4 May at the Stirling Court Hotel to celebrate staff who have reached the milestones of either 25 or 40 years of service at the University. Amongst those receiving awards this year were 6 members of FNS. See the full list at the link below. Congratulations to you all - and well done for staying the course!

[See full list here](#)



Academic Promotions in FNS



Other news



Festival of Research Comms Events

There are a few places remaining on the Communications Team's programme of Festival of Research events – register now to avoid disappointment!

Find out how to navigate the media landscape and pick up tips on how to effectively communicate your research to journalists at our ['Introduction to the Media'](#) session on **Wednesday 31 May (10am – 11.30am)**, or join the ['How to Write for The Conversation'](#) workshop on **Monday 29 May, between 10am and 12 noon**. One 20-minute [one-to-one session remains with Conversation editor Steve Vass at 10.30 on Monday 29 May, should you want to pitch your idea in person.](#)

Finally, the Communications

The following FNS staff were successful in their applications for promotion in the recent Academic Promotions round:

Name	Promoted to
Kevin Swingler, CSM	Professor
David Oliver, BES	Professor
Matt Tinsley, BES	Professor
Ross Goutcher, Psych	Assoc Prof
Armando Marino, BES	Assoc Prof
Clare Bird, BES	Snr Lecturer
Tom Bradwell, BES	Snr Lecturer
Gema Martin-Ordas, Psych	Snr Lecturer
Thiago Silva, BES	Snr Lecturer
Dan Chapman, BES	Snr Lecturer
Eileen Tisdall, BES	Snr Lecturer

Team is hosting a drop-in session on the top floor of Campus Central on **Wednesday 31 May, 09.00 - 17.00**. No booking required – just come along, have a cuppa, meet the team, and find out how they can support you in promoting your research.



Opening of Lifespan Lab generates huge media coverage

As reported in the last Newsletter, the new Lifespan Research Lab - a specialist laboratory which

uses state of the art equipment for the study of behaviour, cognition, and brain function across the lifespan - was officially opened on 18 April. This pioneering lab, first of its kind in Scotland, generated a huge amount of media interest. With the efforts of our Comms partner, Peter Swindon, it featured in [The Herald](#), [STV news](#) website and [TV broadcast](#). If you have a research project, activity or event to publicise, get in touch with Peter in advance.

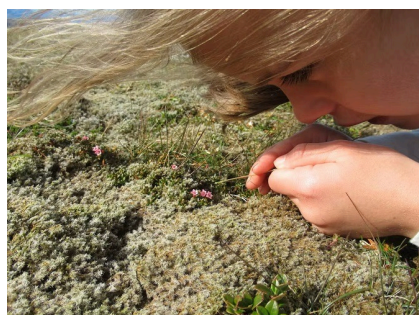
[Read more](#)

Nutritional deficiency in adolescent girls

A study led by **Prof Dave Little**, IoA, in coastal communities in Bangladesh has found that adolescent girls are at risk of nutritional deficiency even when they live in a seafood rich area. This is due to variation in nutritional value of seafood and peoples' access to it. A prevalence in deficiency of Vitamin D could now be used by development agencies to introduce targeted interventions to improve nutrition in vulnerable groups. The study follows on from a [new tool developed earlier this year](#) which identifies girls in developing countries who are at risk. The findings were published in [Scientific Reports](#).

[Read the full story](#)

Climate Warnings



Sarah Watts, PhD researcher in BES has written an article for The Conversation in which she highlights the importance of tiny arctic-alpine plants for the environment of

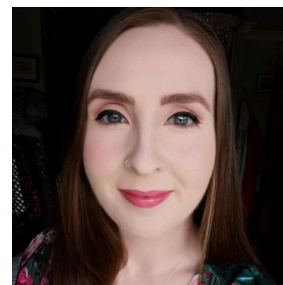


Meanwhile, **Phil Wookey** is leading an investigation into whether global warming causes increased carbon emissions from ecosystems in the Arctic.

harsh mountain landscapes. Due to rising temperatures, their population has plummeted, threatening the future of species that depend on them. If we lose these plants from their British mountaintop outposts – at the edge of where they occur globally – this will signal that their strongholds in the Arctic and the Alps are also in danger.

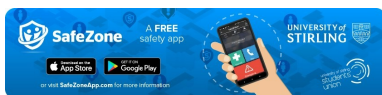
As well as carrying out experiments in northern Sweden, the team will also carry out research in the Scottish Highlands, an environment that has much in common with the Arctic tundra. The study is one of 44 environmental research projects awarded a share of £25m invested by NERC, and comes as the World Meteorological Organisation revealed there is now a 66% chance the planet will pass the 1.5 Celsius global warming threshold between now and 2027.

[Read the full story here](#)



McGee Award

Hannah Durand has been awarded the Hannah McGee Early Career Excellence in Research/Practice Award 2023 by the Psychological Society of Ireland Division of Health Psychology. The award is based on the excellence and breadth of contribution to advancing the science and profession of Health Psychology. In particular, the award panel commended Dr Durand for achieving considerable international policy impact from her research on hypertension management and adherence to COVID-19 mitigation measures. The award will be formally presented at the annual Psychology, Health and Medicine Conference at the University of Limerick on Friday 26 May 2023.



SafeZone App

SafeZone is a free app-based system for students and staff that enhances their personal safety. SafeZone extends the reach of campus safety and security to cater for the real time needs of the people who use campus every day. It provides a quick and easy way for users to alert Security Services, when help or assistance is needed.

It can be used in field teaching and research trips, trips abroad on university business. For students on placements and for those staff and students lone working in laboratories and offices in isolated parts of the campus.

There will be a dedicated faculty session to demonstrate the use of the App on **Friday 23 June 2023 at 10.00** led by Graham Seath, Operational Security Manager and Alison Morrison, Head of Safety & Continuity - [link to the session here](#). Details have also been circulated by email. There is also a [dedicated web page](#) about the SafeZone App.



Ocean Week

Sonia Rey Planellas, IoA, was invited speaker at a conference in Trondheim, Norway to celebrate [Ocean Week](#): From Seas of Data to an Ocean of Knowledge. The main topic of the conference was to make better use of the data we gather from the seas and the ocean from many different sectors, one of which is aquaculture. Sonia was able to talk about the impact on



PhD success!

fish welfare of moving the farming of fish to more exposed conditions. After the presentations related to this topic there was a discussion panel with the public where there was a lot of interest in understanding the limitations of fish in these new conditions and the effect of new technologies and cage designs affecting the welfare of fish in open ocean environments.

Congratulations to Hannah Welshman, Psychology (R), who successfully defended her thesis entitled 'The co-development of a behaviour change intervention to improve preconception health'. Hannah was supervised by Dr Sinéad Currie (L), Dr Stephan Dombrowski, Dr Aileen Grant and Prof Vivien Swanson.



University Business Engagement

The university has recently updated its business engagement offering. As an institution with a strong reputation for research

impact, we work with business and industry to solve real-world problems and drive innovation. A new [dedicated web page](#) provides a portal for business to access our business support services such as support for start-ups; funding; courses and training; working with and recruiting our students; research; and engaging with academics.



Air Quality evidence

Scientific evidence provided by **Dr Heather Price** (UKRI Regional Clean Air Champion for Scotland) has been included in the Scottish Parliament Net Zero, Energy and Transport Committee's '[Report on the Scottish Government's Air Quality Improvement Plan and Wider Air Quality Issues](#)'.

Evidence provided by Heather covered responses to Environmental Standards Scotland's Improvement Report on air quality, the operation of the Scottish Government's 'Cleaner Air for Scotland 2 Strategy',



Mathematicians and Industry Join Forces to Expand Reach of Personalised Healthcare

Mathematicians **Dr. Wen-shin Lee**, **Dr. Anya Kirpichnikova**, and **Dr. Anthony O'Hare** are on secondment at Virtonomy in Munich for the month of May as part of the EU-funded EXPOWER project. This interdisciplinary project focuses on exponential analysis research and its applications across various industries. Virtonomy, a German company, specializes in digital patient twins—customized simulated anatomies tailored to individuals—which streamline the design and testing phase

for medical device developers. They are pictured with Dr Simon Sonntag, founder and CEO of Virtonomy (far left) and Michele Pugno, University of Antwerp (far right).

[Read more](#)

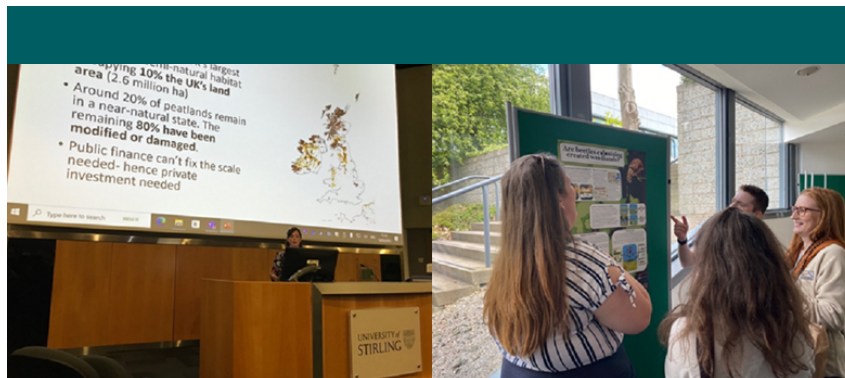
progress towards implementing low emission zones and what can be learnt from global best practice.



US visit

Jud Lowes, third year PhD student in Psychology has been visiting two leading prosopagnosia (face blindness) research groups in the US. Jud's PhD is investigating developmental prosopagnosia across the

lifespan and she was hosted by Professor Brad Duchaine, Professor and Chair of Psychological and Brain Sciences at Dartmouth College and Dr Joe DeGutis at the Boston Attention and Learning Lab, VA Boston Healthcare System/Harvard Medical School. Jud was able to present her research findings to date, learn about both groups' ongoing prosopagnosia research and explore ideas for future collaborations. The study visit was funded by the Scottish Graduate School of Social Sciences. Jud is pictured bottom right with colleagues at the Boston Attention and Learning Lab



BES PhD Symposium 2023

Impressive research and loads of enthusiasm were on display at the BES PhD Award ceremony over 2 days this month. There was a total of 38 presentations from PhD students and an inspirational keynote talk by BES alumnus Dr Renée Kerkvliet-Hermans, coordinator of the Peatland Code at IUCN UK Peatland Programme. Besides the presentations and lively discussions, two exciting award sessions recognised not just the quality of a range of presentations, but importantly the contribution of PhD students to different academic activities in BES. Click on the link below for the full list of awards.



Next Pulse Survey opens 29 May

The next Pulse Survey on the subject of "Welcome and Induction" will launch on Monday 29 May 2023. **Induction isn't just for new staff.** As part of this pulse HR want to understand more about how they can continue to support individuals at key career transitions including moving internally, after promotion, moving into a people management role, and returning to the University after a period of long-term leave (such as maternity/paternity leave, research leave, or long-term absence). So Be Heard! We encourage you to engage with the survey and share your feedback. More info available in the dedicated [Be Heard SharePoint site](#).

More info



Get support from SLS for your work this summer

Joshua Thorpe, Academic Skills Advisor, would like to highlight help available over the summer to achieve some of your teaching tasks

that are difficult to get to from September to April. For example: **Assessment Design** - what should we be assessing with the rise in AI; **Module Design** - simple guidelines to help navigation in Canvas; **Community for students** - how to embed some approaches in modules and programmes; and **Academic Workload** - tools and techniques to help focus on core work and increase productivity. More details via the link below. Contact Joshua directly to discuss any issues or a friendly chat: joshua.thorpe@stir.ac.uk.

More info



Petke, J., Alexander, B., Barr, E.T., **Brownlee, A. E. I.**, Wagner, M. & White, D.R. (2023) Program Transformation Landscapes for Automated Program Modification Using Gin. Empirical Software Engineering.

Price, H.D., Bowyer, C.J., B ker, P. et al. From reflection diaries to practical guidance for transdisciplinary research: learnings from a Kenyan air pollution project. [Sustainability Science](#) 18, 1429–1444

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Welcome Levante May

Congratulations to **Martina Quaggiotto, BES**, on the birth of her daughter on 8 May, a wee sister for Elliott. Both doing well.

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Contributions for next edition

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